



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,670	03/18/2004	Jianbo Lu	81095822FGT1904	2669
28549 7590 03/27/2007 ARTZ & ARTZ, P.C. 28333 TELEGRAPH ROAD, SUITE 250 SOUTHFIELD, MI 48034			EXAMINER SY, MARIANO ONG	
			ART UNIT 3683	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
2 MONTHS	03/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

MAILED

MAR 27 2007

GROUP 3600

Application Number: 10/708,670
Filing Date: March 18, 2004
Appellant(s): LU ET AL.

Attorney Jerome R. Drouillard
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 8, 2006 appealing from the Office action mailed March 20, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

New ground of rejection wherein Claim 37 was added to the rejection.

Claim 37 was rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman (US 6,612,394) in view of Fukushima et al. (US 4,903,983).

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 6,612,394	Wessman	9-2004
US 4,903,983	Fukushima et al.	2-1990
US 6,481,806	Krueger et al.	11-2002
US 5,307,888	Urvoy	5-1994
US 5,515,277	Mine	5-1996
US 5,408,411	Nakamura et al.	4-1995

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 3683

4. Claims 1-6, 8-10, 12, 14-20, 22, 23, 25, 26, 28, 30-32, 34, 35, 37-39, 41-44, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman (US 6,612,394) in view of Fukushima et al. (US 4,903,983).

Re-claims 1, 2, 12, 14, 15, 17, 25, 28, 34, 35, 41, and 47 Wessman disclosed, as shown in fig. 1-4, a system and method of controlling a vehicle having a plurality of brakes comprising: means 5, 3a, 3b, 4a, 4b to detect a parking mode (vehicle is stationary or is being turned at a relatively low speed, col. 2, lines 11-15 and lines 51-62); a controller 10 programmed to apply brake-steer to at least a first wheel to reduce a vehicle turning radius, see col. 2, lines 5-20.

However Wessman was silent to disclose means to determine vehicle loading condition and increasing normal load comprises controlling an active suspension on at least one wheel or on at least one rear wheel.

Fukushima et al. teaches applying brake-steer and increasing normal load and controlling an active suspension on at least one wheel or on at least one rear wheel, see abstract and col. 3, lines 19-26.

It would have been obvious to one of ordinary skill in the art to utilize the known brake-steer and increasing normal load comprises controlling an active air suspension on at least one wheel on the vehicle of Wessman, as taught by Fukushima et al., in order to improve the driving stability of the vehicle during turning or cornering.

Re-claims 3 and 16 Wessman disclosed, as shown in fig. 1-4, wherein the at least one wheel comprises a rear inside wheel relative to a turn.

Art Unit: 3683

Re-claims 4-6, 18-20, 30-32, 37-39, and 42-44 Wessman disclosed, as shown in fig. 1-4, wherein means to detect a parking mode comprises a vehicle speed sensor 3a, 3b, 4a, 4b and a steering wheel angle sensor 5.

Re-claims 8-10, 22, 23, and 26 Wessman disclosed, as shown in fig. 1-4, wherein the step of applying brake-steer comprises applying a first brake and a second brake to reduce a vehicle turning radius.

5. Claims 7, 21, 33, 40, 45, 46, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima et al. as applied to claims 1, 14, 25, 34, and 41 above, and further in view of Krueger et al. (US 6,481,806).

Re-claims 7, 21, 33, and 45 Wessman as modified was silent to disclose detecting a parking mode in response to a driver-actuated switch.

Krueger et al. teaches the use of a brake pedal switch 82 to sense a brake signal during a brake application.

It would have been obvious to one of ordinary skill in the art to utilize the known driver-actuated switch on the vehicle of Wessman as modified, as taught by Krueger et al., in order to detect a brake application.

6. Claims 11, 24, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima et al. as applied to claims 1, 14, and 25 above, and further in view of Urvoy (US 5,307,888).

Art Unit: 3683

Re-claims 11, 24, and 27 Wessman as modified was silent to disclose and it is inherent that applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel during turning.

Urvoy teaches applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel, see col. 1, lines 16-23.

It would have been obvious to one of ordinary skill in the art to have utilized the known teaching of applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel in the system of Wessman as modified, as taught by Urvoy, in order to improve vehicle stability.

7. Claims 13 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima et al. as applied to claims 1 and 34 above, and further in view of Mine (US 5,515,277).

Re-claims 13 and 36 Wessman as modified disclosed increasing the normal load comprises controlling an active suspension but failed to disclose increasing the normal load comprises controlling an air suspension.

Mine teaches an active suspension system using pneumatic suspension.

It would have been obvious to one of ordinary skill in the art to use an air/pneumatic suspension, as taught by Mine, as a matter of design choice from an old and known suspension in order to improve vehicle's stability during turning.

Art Unit: 3683

8. Claims 29 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima et al. as applied to claims 25 and 41 above, and further in view of Nakamura et al. (US 5,408,411).

Re-claims 29 and 48 Wessman as modified was silent to disclose wherein means to determine a loading condition comprises a plurality of wheel speed sensors and a throttle sensor.

Nakamura et al. teaches means to determine a loading condition comprises a plurality of wheel speed sensors and a throttle sensor, see col. 32, lines 35-62.

It would have been obvious to one of ordinary skill in the art to have utilized the known teaching of means to determine a loading condition comprises a plurality of wheel speed sensors and a throttle sensor in the system of Wessman as modified, as taught by Nakamura et al., in order to improve vehicle's stability during turning.

(10) Response to Argument

a). Regarding detecting a "parking mode", par. [0098] of the Appellants' specification disclosed "the parking mode may be determined by using various combinations of sensors such as steering wheel angle sensor and wheel speed sensor.

Wessman (US 6,612,394) uses steering wheel angle sensor 5 to determine the steering has been turned and wheel rotation sensor 3a,3b,4a,4b to determine whether the vehicle is stationary or moving at a velocity less than a predetermined limit for example 7 km/h, see col. 3, lines 64-67 and col. 4, lines 1-6.

Art Unit: 3683

"Parking mode" is a relatively broad phrase and if Appellants think that Wessman reference does not disclose detecting a parking mode then Appellants' disclosure will also fail to do so.

b). Regarding par. VII. Argument, Appellants recited "The Fukushima reference teaches ----- the vehicle at a corner. The Examiner points to Col. 2, lines 5-20, for brake-steering a vehicle. Also, the Examiner points to Col. 2, lines 11-15, for detecting a parking mode. Appellants have reviewed Col. 2, which refers to EP Application 01/93124. ----- This portion refers to a controlled suspension and not to detecting a parking mode".

Appellants made a mistake in the above arguments. Under (9) Grounds of Rejection, see par. 4 rejected under 35 U.S.C. 103(a), Examiner is referring to Wessman reference and not Fukushima reference.

c). Appellants argued "neither of the two references teaches detecting a parking mode and simultaneously with the step of applying brake-steer increasing a normal load on at least one of the wheels to reduce a vehicle turning radius". As disclosed in par. [0101] of the Appellants' specification, the normal load on each wheel is determined by controlling the corresponding active suspension helps improve the turning radius of the vehicle.

Wessman reference disclose in col. 1, lines 32-41 disclosed "making physical changes to the vehicle suspension, in order to temporarily or permanently move the pivot point for the steerable wheels towards the center of the turning radius, or cornering center. However, such a suspension arrangement optimized for a small minimum

Art Unit: 3683

turning radius could, for instance, move the contact surface of the tire from the inner/center part to the outer part of the tire. A weight distribution of this kind would almost certainly have a negative effect on the handling of the vehicle at speed”.

Fukushima reference teaches the use of active suspension control for adjusting load distribution at respective vehicle wheels, the use of means for monitoring vehicle speed, the use of sensor for detecting vehicular steering condition, and a controller to adjust stiffness of respective suspension for adjusting load distribution at respective wheels for obtaining optimum cornering or turning of the vehicle, and for a small minimum turning radius, see Summary of the Invention col. 3-4. As is well known, see col. 2, lines 31-37, driving torque to rotate the road wheel acts on the tread of the wheel as longitudinal force. In cornering, a lateral force acts on the tread of the wheel due to centrifugal force. The combined force of the driving torque and the lateral force determines the cornering characteristics of the vehicle.

d). Krueger et al. (US 6,481,806) is merely use of brake pedal switch to sense a brake signal during a brake application.

e). Urvoy (US 5,307,888) is merely use for the teaching of applying brake-steer comprises applying an increased drive torque to a wheel during turning.

f). Mine (US 5,515,277) is merely use for the teaching of an active suspension system using pneumatic suspension.

h). Nakamura et al. (US 5,408,411) is merely use for the teaching of means to determine a loading condition comprises a plurality of wheel speed sensors and a throttle sensor, see col. 32, lines 35-62.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

This examiner's answer contains a new ground of rejection set forth in section (9) above. Accordingly, appellant must within **TWO MONTHS** from the date of this answer exercise one of the following two options to avoid *sua sponte* **dismissal of the appeal** as to the claims subject to the new ground of rejection:

(1) **Reopen prosecution.** Request that prosecution be reopened before the primary examiner by filing a reply under 37 CFR 1.111 with or without amendment, affidavit or other evidence. Any amendment, affidavit or other evidence must be relevant to the new grounds of rejection. A request that complies with 37 CFR 41.39(b)(1) will be entered and considered. Any request that prosecution be reopened will be treated as a request to withdraw the appeal.

(2) **Maintain appeal.** Request that the appeal be maintained by filing a reply brief as set forth in 37 CFR 41.41. Such a reply brief must address each new ground of rejection as set forth in 37 CFR 41.37(c)(1)(vii) and should be in compliance with the other requirements of 37 CFR 41.37(c). If a reply brief filed pursuant to 37 CFR 41.39(b)(2) is accompanied by any amendment, affidavit or other evidence, it shall be

Art Unit: 3683

Extensions of time under 37 CFR 1.136(a) are not applicable to the TWO MONTH time period set forth above. See 37 CFR 1.136(b) for extensions of time to reply for patent applications and 37 CFR 1.550(c) for extensions of time to reply for ex parte reexamination proceedings.

Respectfully submitted,

ms Mariano Sy

March 6, 2007

A Technology Center Director or designee must personally approve the new ground(s) of rejection set forth in section (9) above by signing below:

Katherine Matecki
KATHERINE MATECKI
ACTING DIRECTOR
TC 3600

Conferees:

Meredith Petravick (Appeals Practice Specialist) *MP*

Robert Siconolfi (Primary Examiner) *RS*